



**U.S. EPA REGION III
Office of Analytical Services and Quality Assurance
Fort Meade, Maryland**

OASQA LABORATORY REPORT

ELKTON FARMS

**Lab Request #: REQ03186
Request Form #: DAS R31657**

Report prepared on: September 10, 2003

Approval for release:


OASQA Representative

Site contact(s): Lorie Baker (3HS34)
Alex Cox

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SITE NAME: ELKTON FARMS

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SAMPLE DESCRIPTIONS

<u>Sample #</u>	<u>Station</u>	<u>Description</u>	<u>Matrix</u>	<u>Type</u>	<u>End Collection</u>	
					<u>Date</u>	<u>Time</u>
03062501	SED1	SED1	Bottom Sediment or Deposition	GRAB	06/24/2003	11:10
03062502	SED2	SED2	Bottom Sediment or Deposition	GRAB	06/24/2003	10:15
03062503	SED3	SED3	Bottom Sediment or Deposition	GRAB	06/24/2003	13:15
03062504	SED4	SED4	Bottom Sediment or Deposition	GRAB	06/24/2003	09:40
03062505	SED5	SED5	Bottom Sediment or Deposition	GRAB	06/24/2003	10:15
03062506	SST10	SST10	Bottom Sediment or Deposition	GRAB	06/24/2003	12:26
03062507	SST11	SST11	Bottom Sediment or Deposition	GRAB	06/24/2003	13:47
03062508	SST15	SST15	Bottom Sediment or Deposition	GRAB	06/24/2003	11:40
03062509	SST2	SST2	Bottom Sediment or Deposition	GRAB	06/24/2003	09:44
03062510	SST3	SST3	Bottom Sediment or Deposition	GRAB	06/24/2003	10:13
03062511	SST4	SST4	Bottom Sediment or Deposition	GRAB	06/24/2003	10:52
03062512	SST5	SST5	Bottom Sediment or Deposition	GRAB	06/24/2003	11:40
03062513	SST9	SST9	Bottom Sediment or Deposition	GRAB	06/24/2003	14:20
03062514	ST10	ST10	Bottom Sediment or Deposition	GRAB	06/24/2003	12:09
03062515	ST11	ST11	Bottom Sediment or Deposition	GRAB	06/24/2003	13:42
03062516	ST15	ST15	Bottom Sediment or Deposition	GRAB	06/24/2003	11:28
03062517	ST2	ST2	Bottom Sediment or Deposition	GRAB	06/24/2003	09:33
03062518	ST3	ST3	Bottom Sediment or Deposition	GRAB	06/24/2003	10:05
03062519	ST4	ST4	Bottom Sediment or Deposition	GRAB	06/24/2003	10:45
03062520	ST5	ST5	Bottom Sediment or Deposition	GRAB	06/24/2003	11:28
03062521	ST9	ST9	Bottom Sediment or Deposition	GRAB	06/24/2003	14:15
03062522	SWT1	SWT1	Surface Water	GRAB	06/24/2003	11:10
03062523	SWT2	SWT2	Surface Water	GRAB	06/24/2003	10:15
03062524	SWT3	SWT3	Surface Water	GRAB	06/24/2003	13:10
03062525	SWT4	SWT4	Surface Water	GRAB	06/24/2003	09:40
03062526	SWT5	SWT5	Surface Water	GRAB	06/24/2003	10:15
03062527	SWT6	SWT6	Surface Water	GRAB	06/24/2003	09:30
03062604	SST1	SST1	Bottom Sediment or Deposition	GRAB	06/25/2003	13:10
03062605	SST12	SST12	Bottom Sediment or Deposition	GRAB	06/25/2003	09:40
03062606	SST13	SST13	Bottom Sediment or Deposition	GRAB	06/25/2003	10:10
03062607	SST14	SST14	Bottom Sediment or Deposition	GRAB	06/25/2003	11:10
03062608	SST6	SST6	Bottom Sediment or Deposition	GRAB	06/25/2003	11:32
03062609	SST7	SST7	Bottom Sediment or Deposition	GRAB	06/25/2003	11:57

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SAMPLE DESCRIPTIONS

<u>Sample #</u>	<u>Station</u>	<u>Description</u>	<u>Type</u>	<u>Date</u>	<u>Time</u>
03062610	SST8	SST8	GRAB	06/25/2003	10:40
03062611	ST1	ST1	GRAB	06/25/2003	13:05
03062612	ST12	ST12	GRAB	06/25/2003	09:35
03062613	ST13	ST13	GRAB	06/25/2003	10:05
03062614	ST14	ST14	GRAB	06/25/2003	11:05
03062615	ST6	ST6	GRAB	06/25/2003	11:27
03062616	ST7	ST7	GRAB	06/25/2003	11:52
03062617	ST8	ST8	GRAB	06/25/2003	10:35
03062618	SWT7	SWT7	GRAB	06/25/2003	09:00

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TESTS REQUESTED

INORGANICS

030625

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Perchlorate by IC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

INORGANICS

030626

	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
Perchlorate by IC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ORGANICS

030625

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Nitroaromatics and Nitramines by HPLC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ORGANICS

030626

	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
Nitroaromatics and Nitramines by HPLC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

(X = Test Requested)

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QUALIFIER CODE AND GLOSSARY DEFINITIONS

QUALIFIER CODES:

< Sample value is below the quantitation limit. Quantitation limit reported.
</= Reported value is estimated. Sample was analyzed in duplicate, one value is equal to or above the quantitation limit and one below. Average of quantitation limit and detected value reported.
> Sample value is above the quantitation range.
A Quality control value is outside acceptance limits.
B Not detected substantially above (10 times) the level reported in the laboratory or field blanks (includes field, trip, rinsate, and equipment blanks).
C See report narrative for analyst's observations concerning this result.
D Sample and duplicate values are below the quantitation limit. Quantitation limit reported.
E Value exceeds a theoretically greater value (e.g. dissolved > total, orthophosphate > total phosphorus). However, the difference is within the expected precision of the analytical techniques and is not statistically significant.
I An interference exists which masks true response. See report narrative for explanation.
J Analyte present. Reported value is estimated; concentration is outside the range for accurate quantitation.
K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
N Presumptive evidence indicates the presence of the compound. Special methods and/or method modifications may be needed to confirm its presence or absence in future sampling efforts.
NA Analysis was not requested.
Q No analytical results. See report for explanation.
R Unreliable results. Analyte may or may not be present in the sample. Supporting data is necessary to confirm results.
T Tentatively Identified Compound. Identified as a result of a library search using the EPA/NIH Mass Spectral Library. Authentic standards were not available to properly identify and quantitate the compound. The reported concentration is an estimate.
TD Spike recovery too dilute for accurate quantitation.
UJ Not detected. Quantitation limit is estimated.
UL Not detected. Quantitation limit is probably higher.

GLOSSARY:

() Numbers in parentheses are analytical spike recoveries (e.g. post-digestion spikes).
[] Numbers in brackets are matrix spike recoveries (e.g. pre-digestion spikes).
MS/MSD Matrix spike/matrix spike duplicate; a known increment of target analyte made to a sample before preparation or analyses.
MSA Method of Standard Additions.
RPD Relative Percent Difference; the results for duplicate analyses are presented as the mean and the relative percent difference.

$$RPD = \frac{|\text{Replicate1} - \text{Replicate2}|}{(\text{Replicate1} + \text{Replicate2})/2} \times 100$$

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INORGANIC ANALYTICAL SAMPLE RESULTS

SAMPLE NUMBER:	03062501	03062502	03062503	03062504	03062505
STATION ID:	SED1	SED2	SED3	SED4	SED5
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC					
Perchlorate	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg

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INORGANIC ANALYTICAL SAMPLE RESULTS

	SAMPLE NUMBER:	03062506	03062507	03062508	03062509	03062510
	STATION ID:	SST10	SST11	SST15	SST2	SST3
		SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC						
Perchlorate		<0.020 mg/Kg	<0.020 mg/Kg	0.369 mg/Kg	<0.020 mg/Kg	0.046 mg/Kg

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INORGANIC ANALYTICAL SAMPLE RESULTS

SAMPLE NUMBER:	03062511	03062512	03062513	03062514	03062515
STATION ID:	SST4	SST5	SST9	ST10	ST11
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC					
Perchlorate	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg

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INORGANIC ANALYTICAL SAMPLE RESULTS

	SAMPLE NUMBER:	03062516	03062517	03062518	03062519	03062520
	STATION ID:	ST15	ST2	ST3	ST4	ST5
		SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC						
Perchlorate		<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg

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INORGANIC ANALYTICAL SAMPLE RESULTS

SAMPLE NUMBER:	03062521	03062522	03062523	03062524	03062525
STATION ID:	ST9	SWT1	SWT2	SWT3	SWT4
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC					
Perchlorate	<0.020 mg/Kg	<4.00 ug/L	<4.00 ug/L	<4.00 ug/L	<4.00 ug/L

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INORGANIC ANALYTICAL SAMPLE RESULTS

	SAMPLE NUMBER:	03062526	03062527	03062604	03062605	03062606
	STATION ID:	SWT5	SWT6	SST1	SST12	SST13
		SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC						
Perchlorate		<4.00 ug/L	<4.00 ug/L	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg

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INORGANIC ANALYTICAL SAMPLE RESULTS

SAMPLE NUMBER:	03062607	03062608	03062609	03062610	03062611
STATION ID:	SST14	SST6	SST7	SST8	ST1
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC					
Perchlorate	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg

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INORGANIC ANALYTICAL SAMPLE RESULTS

	SAMPLE NUMBER:	03062612	03062613	03062614	03062615	03062616
	STATION ID:	ST12	ST13	ST14	ST6	ST7
		SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Perchlorate by IC						
Perchlorate		<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg	<0.020 mg/Kg

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INORGANIC ANALYTICAL SAMPLE RESULTS

SAMPLE NUMBER:	03062617	03062618
STATION ID:	ST8	SWT7
	SAMPLE	SAMPLE

Perchlorate by IC

Perchlorate	<0.020 mg/Kg	<4.00 ug/L
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INORGANIC QUALITY CONTROL RESULTS

SAMPLE NUMBER: 03062506

03062515

03062522

STATION ID: SST10

ST11

SWT1

	Units:	% REC	RPD	% REC	RPD	% REC	RPD
Perchlorate by IC							
Perchlorate		[98]	D	[94]	D	[101]	D

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INORGANIC QUALITY CONTROL RESULTS

SAMPLE NUMBER:	03062607	03062617
STATION ID:	SST14	ST8

Units:	% REC	RPD	% REC	RPD
Perchlorate by IC				
Perchlorate	[96]	D	[97]	D

[] = LSF

() = ISF

Perchlorate Determination

Analyst:

Ronald H. Altman
Chemist

Method:

The ELKTON FARMS water samples (REQ03186) were analyzed for Perchlorate using EPA Method 314.0¹ (Determination of Perchlorate in Drinking Water using Ion Chromatography). The water samples were filtered through a Gelman glass fiber Type A/E 47 mm filter. In addition, a laboratory reagent blank (LRB), laboratory fortified blank (LFB), laboratory fortified blank at the maximum conductivity threshold (LFB at MCT), a matrix duplicate (LD2) and a matrix spike (LSF) were also prepared and taken through the process. The soil samples were prepared for inorganic analysis by weighing approximately four grams of the wet soil sample. 20 mL of Milli-Q water was added to the samples and the slurry was vortexed for one minute. The prepared samples were centrifuged for 10 minutes at 2000 rpm. The liquid phase was filtered through a 0.45µm syringe filter prior to inorganic analyses using EPA Method 314.0 (Determination of Perchlorate in Drinking Water Using Ion Chromatography) on the Dionex DX-600. A laboratory reagent blank (LRB), laboratory fortified blank (LFB), laboratory fortified blank at the maximum conductivity threshold (LFB at MCT) were prepared and taken through the process. In addition a matrix duplicate (LD2) and a matrix spike (LSF) were also prepared for each set of 10 samples and taken through the process.

¹ US EPA Method 314.0, Determination of Perchlorate in Drinking Water Using Ion Chromatography, Revision 1.0, November 1999

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062501	03062502	03062503	03062504	03062505
Station ID:	SEDT1	SEDT2	SEDT3	SEDT4	SEDT5
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE

Nitroaromatics and Nitramines by HPLC

4-Amino-2,6-dinitrotoluene

2-Amino-4,6-dinitrotoluene

1,3-Dinitrobenzene

Dinitrotoluene isomers (2,4- and 2,6-)

Hexahydro-1,3,5-trinitro-1,3,5-triazine
(RDX)Methyl-2,4,6-trinitrophenylnitramine
(Tetryl)

Nitrobenzene

1,3,5-Trinitrobenzene

2,4,6-Trinitrotoluene

UL mg/Kg

UL mg/Kg

UL mg/Kg

UL mg/Kg

UL mg/Kg

0.0380 mg/Kg

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062506	03062507	03062508	03062509	03062510
Station ID:	SST10	SST11	SST15	SST2	SST3
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Nitroaromatics and Nitramines by HPLC					
4-Amino-2,6-dinitrotoluene			0.0566 mg/Kg	1.05 mg/Kg	0.0713 mg/Kg
2-Amino-4,6-dinitrotoluene			0.0892 mg/Kg	1.58 mg/Kg	0.0539 mg/Kg
1,3-Dinitrobenzene				0.0204 J mg/Kg	
Dinitrotoluene isomers (2,4- and 2,6-)				0.114 mg/Kg	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)				0.107 N mg/Kg	
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg
Nitrobenzene					
1,3,5-Trinitrobenzene			0.0230 J mg/Kg	0.323 mg/Kg	0.0189 J mg/Kg
2,4,6-Trinitrotoluene			0.198 mg/Kg	46.6 mg/Kg	0.0813 mg/Kg

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062511	03062512	03062513	03062514	03062515
Station ID:	SST4	SST5	SST9	ST10	ST11
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE

Nitroaromatics and Nitramines by HPLC

4-Amino-2,6-dinitrotoluene		0.0744 mg/Kg			
2-Amino-4,6-dinitrotoluene		0.118 mg/Kg			
1,3-Dinitrobenzene					
Dinitrotoluene isomers (2,4- and 2,6-)					
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)					
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg
Nitrobenzene					
1,3,5-Trinitrobenzene		0.0282 J mg/Kg			
2,4,6-Trinitrotoluene		0.141 mg/Kg	0.0370 J mg/Kg		

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ORGANIC ANALYTICAL SAMPLE RESULTS

	Sample Number: 03062516	03062517	03062518	03062519	03062520
	Station ID: ST15	ST2	ST3	ST4	ST5
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Nitroaromatics and Nitramines by HPLC					
4-Amino-2,6-dinitrotoluene	2.44 mg/Kg	6.36 mg/Kg	0.379 mg/Kg		1.62 mg/Kg
2-Amino-4,6-dinitrotoluene	2.36 mg/Kg	7.78 mg/Kg	0.246 mg/Kg		1.64 mg/Kg
1,3-Dinitrobenzene	0.0218 J mg/Kg	0.0783 mg/Kg			0.0245 J mg/Kg
Dinitrotoluene isomers (2,4- and 2,6-)	0.146 mg/Kg	0.429 mg/Kg			0.118 mg/Kg
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)					
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg
Nitrobenzene		UJ mg/Kg	UJ mg/Kg	UJ mg/Kg	UJ mg/Kg
1,3,5-Trinitrobenzene	0.292 mg/Kg	2.32 mg/Kg	0.019 J mg/Kg		0.189 mg/Kg
2,4,6-Trinitrotoluene	5.80 mg/Kg	95.4 mg/Kg	0.154 mg/Kg		3.90 mg/Kg

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062521	03062522	03062523	03062524	03062525
Station ID:	ST9	SWT1	SWT2	SWT3	SWT4
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE

Nitroaromatics and Nitramines by HPLC

4-Amino-2,6-dinitrotoluene

2-Amino-4,6-dinitrotoluene

1,3-Dinitrobenzene

Dinitrotoluene isomers (2,4- and 2,6-)

Hexahydro-1,3,5-trinitro-1,3,5-triazine
(RDX)Methyl-2,4,6-trinitrophenylnitramine
(Tetryl)

Nitrobenzene

1,3,5-Trinitrobenzene

2,4,6-Trinitrotoluene

	UL ug/L	UL ug/L	UL ug/L	UL ug/L
UL mg/Kg	UL ug/L	UL ug/L	UL ug/L	UL ug/L
UJ mg/Kg	UJ ug/L	UJ ug/L	UJ ug/L	UJ ug/L
0.0251 J mg/Kg				

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062526	03062527	03062604	03062605	03062606
Station ID:	SWT5	SWT6	SST1	SST12	SST13
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE

Nitroaromatics and Nitramines by HPLC

4-Amino-2,6-dinitrotoluene

2-Amino-4,6-dinitrotoluene

1,3-Dinitrobenzene

Dinitrotoluene isomers (2,4- and 2,6-)

Hexahydro-1,3,5-trinitro-1,3,5-triazine
(RDX)Methyl-2,4,6-trinitrophenylnitramine
(Tetryl)

Nitrobenzene

1,3,5-Trinitrobenzene

2,4,6-Trinitrotoluene

UL ug/L

UL ug/L

UL ug/L

UL ug/L

UL mg/Kg

UL mg/Kg

UL mg/Kg

UJ ug/L

UJ ug/L

UJ mg/Kg

UJ mg/Kg

UJ mg/Kg

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062607	03062608	03062609	03062610	03062611
Station ID:	SST14	SST6	SST7	SST8	ST1
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Nitroaromatics and Nitramines by HPLC					
4-Amino-2,6-dinitrotoluene			0.0579 mg/Kg	0.0583 mg/Kg	
2-Amino-4,6-dinitrotoluene	0.0477 mg/Kg		0.147 mg/Kg	0.0881 mg/Kg	
1,3-Dinitrobenzene					
Dinitrotoluene isomers (2,4- and 2,6-)	0.111 mg/Kg			0.0318 J mg/Kg	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)					
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg
Nitrobenzene	UJ mg/Kg	UJ mg/Kg	UJ mg/Kg	UJ mg/Kg	UJ mg/Kg
1,3,5-Trinitrobenzene	0.0460 mg/Kg		0.118 mg/Kg		
2,4,6-Trinitrotoluene	0.106 mg/Kg	0.0507 mg/Kg	0.432 mg/Kg	0.229 mg/Kg	

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ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062612	03062613	03062614	03062615	03062616
Station ID:	ST12	ST13	ST14	ST6	ST7
	SAMPLE	SAMPLE	SAMPLE	SAMPLE	SAMPLE
Nitroaromatics and Nitramines by HPLC					
4-Amino-2,6-dinitrotoluene				0.0424 mg/Kg	0.233 mg/Kg
2-Amino-4,6-dinitrotoluene			0.347 J mg/Kg	0.0385 mg/Kg	0.237 mg/Kg
1,3-Dinitrobenzene					
Dinitrotoluene isomers (2,4- and 2,6-)			0.0503 mg/Kg		
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)					
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg	UL mg/Kg
Nitrobenzene	UJ mg/Kg	UJ mg/Kg	UJ mg/Kg	UJ mg/Kg	UJ mg/Kg
1,3,5-Trinitrobenzene					
2,4,6-Trinitrotoluene			0.0796 mg/Kg	0.0503 mg/Kg	0.478 mg/Kg

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LAB REQUEST #: REQ03186

ORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	03062617	03062618
Station ID:	ST8	SWT7
	SAMPLE	SAMPLE

Nitroaromatics and Nitramines by HPLC

4-Amino-2,6-dinitrotoluene	0.345 mg/Kg	
2-Amino-4,6-dinitrotoluene	0.518 mg/Kg	
1,3-Dinitrobenzene		
Dinitrotoluene isomers (2,4- and 2,6-)	0.0763 mg/Kg	
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)		UL ug/L
Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	UL mg/Kg	UL ug/L
Nitrobenzene	UJ mg/Kg	UJ ug/L
1,3,5-Trinitrobenzene	0.0490 mg/Kg	
2,4,6-Trinitrotoluene	0.619 mg/Kg	

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

ORGANIC QUALITY CONTROL (SURROGATE RECOVERIES)

Matrix: SOLIDS

	SAMPLE NUMBER:	03062501	03062502	03062503	03062504	03062505	03062506	03062507	03062508
	STATION ID:	SED1	SED2	SED3	SED4	SED5	SST10	SST11	SST15
<u>SURROGATES</u>	<u>LIMITS</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>
Nitroaromatics and Nitramines by HPLC	Range	% REC	% REC	% REC	% REC	% REC	% REC	% REC	% REC
1,2-Dinitrobenzene	(70-130)	113	119	101	112	104	100	106	103

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

ORGANIC QUALITY CONTROL (SURROGATE RECOVERIES)

Matrix: SOLIDS

	SAMPLE NUMBER:	03062509	03062510	03062511	03062512	03062513	03062514	03062515	03062516
	STATION ID:	SST2	SST3	SST4	SST5	SST9	ST10	ST11	ST15
<u>SURROGATES</u>	<u>LIMITS</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>
Nitroaromatics and Nitramines by HPLC	Range	% REC	% REC	% REC	% REC	% REC	% REC	% REC	% REC
1,2-Dinitrobenzene	(70-130)	114	104	102	109	101	110	104	93

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

ORGANIC QUALITY CONTROL (SURROGATE RECOVERIES)

Matrix: SOLIDS

	SAMPLE NUMBER:	03062517	03062518	03062519	03062520	03062521	03062604	03062605	03062606
	STATION ID:	ST2	ST3	ST4	ST5	ST9	SST1	SST12	SST13
<u>SURROGATES</u>	<u>LIMITS</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>
Nitroaromatics and Nitramines by HPLC	Range	% REC	% REC	% REC	% REC	% REC	% REC	% REC	% REC
1,2-Dinitrobenzene	(70-130)	104	101	104	97	102	104	110	105

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

ORGANIC QUALITY CONTROL (SURROGATE RECOVERIES)

Matrix: SOLIDS

	SAMPLE NUMBER:	03062607	03062608	03062609	03062610	03062611	03062612	03062613	03062614
	STATION ID:	SST14	SST6	SST7	SST8	ST1	ST12	ST13	ST14
<u>SURROGATES</u>	<u>LIMITS</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>
Nitroaromatics and Nitramines by HPLC	Range	% REC	% REC	% REC	% REC	% REC	% REC	% REC	% REC
1,2-Dinitrobenzene	(70-130)	102	102	99	103	101	100	101	105

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

ORGANIC QUALITY CONTROL (SURROGATE RECOVERIES)

Matrix: SOLIDS

	SAMPLE NUMBER:	03062615	03062616	03062617
	STATION ID:	ST6	ST7	ST8
<u>SURROGATES</u>	<u>LIMITS</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>
Nitroaromatics and Nitramines by HPLC	Range	% REC	% REC	% REC
1,2-Dinitrobenzene	(70-130)	105	103	102

Matrix: WATER

	SAMPLE NUMBER:	03062522	03062523	03062524	03062525	03062526	03062527	03062618
	STATION ID:	SWT1	SWT2	SWT3	SWT4	SWT5	SWT6	SWT7
<u>SURROGATES</u>	<u>LIMITS</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>
Nitroaromatics and Nitramines by HPLC	Range	% REC	% REC	% REC	% REC	% REC	% REC	% REC
1,2-Dinitrobenzene	(70-130)	73	88	89	86	80	97	103

SITE NAME : ELKTON FARMS

LAB REQUEST # : REQ03186

ORGANIC QUALITY CONTROL (MATRIX SPIKE RECOVERIES)

Matrix : SOLIDS

SAMPLE NUMBER : 03062506

STATION ID : SST10

<u>ANALYTES</u>	<u>Spike</u>	<u>Recovery</u>	<u>Recovery</u>	<u>RPD</u>	
	<u>MS</u>	<u>MSD</u>	<u>Limits</u>	<u>RPD</u>	<u>Limits</u>
	<u>%</u>	<u>%</u>	<u>Range</u>	<u>RPD</u>	<u>Limit</u>
Nitroaromatics and Nitramines by HPLC					
4-Amino-2,6-Dinitrotoluene	104	107	(70-130)	2	25
2-Amino-4,6-Dinitrotoluene	107	106	(70-130)	1	25
1,3-Dinitrobenzene	102	103	(70-130)	0	25
Dinitrotoluene isomers (2,4- and 2,6-)	105	105	(70-130)	0	25
RDX	95	89	(70-130)	7	25
Tetryl	97	88	(60-130)	9	25
Nitrobenzene	108	106	(70-130)	2	25
2-Nitrotoluene	105	103	(70-130)	2	25
3-Nitrotoluene	104	106	(70-130)	2	25
4-Nitrotoluene	106	103	(70-130)	3	25
HMX	100	104	(60-130)	3	25
1,3,5-Trinitrobenzene	105	101	(70-130)	4	25
2,4,6-Trinitrotoluene	104	103	(70-130)	1	25

SITE NAME : ELKTON FARMS

LAB REQUEST # : REQ03186

ORGANIC QUALITY CONTROL (MATRIX SPIKE RECOVERIES)

Matrix : SOLIDS

SAMPLE NUMBER : 03062611

STATION ID : ST1

ANALYTES	Spike	Recovery	Recovery	RPD	
	MS	MSD	Limits	RPD	Limits
Nitroaromatics and Nitramines by HPLC	%	%	Range	RPD	Limit
4-Amino-2,6-Dinitrotoluene	102	101	(70-130)	0	25
2-Amino-4,6-Dinitrotoluene	112	108	(70-130)	3	25
1,3-Dinitrobenzene	103	104	(70-130)	0	25
Dinitrotoluene isomers (2,4- and 2,6-)	107	105	(70-130)	2	25
RDX	96	93	(70-130)	3	25
Tetryl	93	98	(60-130)	6	25
Nitrobenzene	116	113	(70-130)	3	25
2-Nitrotoluene	95	100	(70-130)	5	25
3-Nitrotoluene	109	107	(70-130)	2	25
4-Nitrotoluene	103	107	(70-130)	4	25
HMX	102	105	(60-130)	2	25
1,3,5-Trinitrobenzene	99	97	(70-130)	2	25
2,4,6-Trinitrotoluene	106	105	(70-130)	1	25

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

ORGANIC LABORATORY REAGENT BLANK RESULTS

Nitroaromatics and Nitramines by HPLC

Date Prepared: JUN-26-2003

SURROGATES

1,2-Dinitrobenzene

94 % REC

ANALYTES

Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)

UL ug/L

Methyl-2,4,6-trinitrophenylnitramine (Tetryl)

UL ug/L

Date Prepared: JUN-30-2003

SURROGATES

1,2-Dinitrobenzene

106 % REC

ANALYTES

Methyl-2,4,6-trinitrophenylnitramine (Tetryl)

UL mg/Kg

Date Prepared: JUN-30-2003

SURROGATES

1,2-Dinitrobenzene

108 % REC

ANALYTES

Methyl-2,4,6-trinitrophenylnitramine (Tetryl)

UL mg/Kg

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

SUPPLEMENTAL SAMPLE INFORMATION

Nitroaromatics and Nitramines by HPLC

SAMPLE #SAMPLE
NQL FACTOR

03062501	1
03062502	1
03062503	1
03062504	1
03062505	1
03062506	1
03062507	1
03062508	1
03062509	1
03062510	1
03062511	1
03062512	1
03062513	1
03062514	1
03062515	1
03062516	1
03062517	1
03062518	1
03062519	1
03062520	1
03062521	1
03062522	1
03062523	1
03062524	1
03062525	1
03062526	1
03062527	1
03062604	1
03062605	1
03062606	1
03062607	1
03062608	1
03062609	1
03062610	1
03062611	1
03062612	1
03062613	1
03062614	1
03062615	1
03062616	1
03062617	1
03062618	0.91

SITE NAME: ELKTON FARMS

LAB REQUEST #: REQ03186

SUPPLEMENTAL SAMPLE INFORMATION

NQL Factor is an overall correction factor applied to the method's Nominal Quantitation Limit to correct for analytical adjustments made during the analysis.

**USEPA Region III
Office of Analytical Services and Quality Assurance (OASQA)
Nitroaromatic and Nitramine Analysis
Nominal Quantitation Limits (NQL)**

Units: Soil = mg/Kg

Actual Quantitation Limit = (NQL Factor) X NQL

CAS #	Compound	NQL
35572-78-2	2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.05
99-65-0	1,3-Dinitrobenzene (1,3-DNB)	0.05
121-14-2	2,4-Dinitrotoluene (2,4-DNT)	0.05
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.10
98-95-3	Nitrobenzene (NB)	0.05
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.10
99-35-4	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.05
118-96-7	2,4,6-Trinitrotoluene (TNT)	0.05
1946-51-0	4-Amino-2,6-Dinitrotoluene (4-Am-DNT)	0.05
88-72-2	2-Nitrotoluene (2-NT)	0.05
99-08-1	3-Nitrotoluene (3-NT)	0.05
99-99-0	4-Nitrotoluene (4-NT)	0.05
479-45-8	Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	0.10
606-20-2	2,6-Dinitrotoluene (2,6-DNT)	0.05

The "Nominal Quantitation Limit" listed for each target compound is based on the Superfund CLP Protocol. The Actual Quantitation Limits are related to the NQLs by the NQL Factor. This NQL Factor reflects procedural steps, e.g., extract dilution, which influence quantitation limits.

**USEPA Region III
Office of Analytical Services and Quality Assurance (OASQA)
Nitroaromatic and Nitramine Analysis
Nominal Quantitation Limits (NQL)**

Units: Water = ug/L

Actual Quantitation Limit = (NQL Factor) X NQL

CAS #	Compound	NQL
35572-78-2	2-Amino-4,6-dinitrotoluene (2-Am-DNT)	0.13
99-65-0	1,3-Dinitrobenzene (1,3-DNB)	0.13
121-14-2	2,4-Dinitrotoluene (2,4-DNT)	0.13
2691-41-0	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	0.26
98-95-3	Nitrobenzene (NB)	0.13
121-82-4	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	0.26
99-35-4	1,3,5-Trinitrobenzene (1,3,5-TNB)	0.13
118-96-7	2,4,6-Trinitrotoluene (TNT)	0.13
1946-51-0	4-Amino-2,6-Dinitrotoluene (4-Am-DNT)	0.13
88-72-2	2-Nitrotoluene (2-NT)	0.13
99-08-1	3-Nitrotoluene (3-NT)	0.13
99-99-0	4-Nitrotoluene (4-NT)	0.13
479-45-8	Methyl-2,4,6-trinitrophenylnitramine (Tetryl)	0.26
606-20-2	2,6-Dinitrotoluene (2,6-DNT)	0.13

The "Nominal Quantitation Limit" listed for each target compound is based on the Superfund CLP Protocol. The Actual Quantitation Limits are related to the NQLs by the NQL Factor. This NQL Factor reflects procedural steps, e.g., extract dilution, which influence quantitation limits.

Nitroaromatic and Nitramine Analysis by HPLC

Analyst:

Jennifer Gundersen
Chemist

Method:

Seven aqueous and 35 soil/sediment samples from ELKTON FARMS (REQ03186) were received for analysis of nitroaromatic/nitramine explosives (Method 8330 analytes). The samples were collected June 24 and 25, 2003, extracted June 25 through July 1, 2003, and analyzed July 1 through July 10, 2003. All samples were extracted and analyzed according to R3-QA221.0, a combined method based on SW-846 Methods 8000B and 8330A. Only detected results are reported. Soil and sediment results are reported on an air-dried weight basis. The quantitation levels are provided in the attached table.

Quality Control:

RDX results were qualified "N" in sample 030625-09. The compound appeared to be present in the sample but a coeluting interference prevented positive identification. Sample results with a "J" were qualified because the result was below quantitation limits

All samples were extracted and analyzed within holding time.

Initial calibration was within acceptance limits.

Second source initial calibration verification was within acceptance limits with the exception of tetryl which was slightly below QC limits. Tetryl was not detected in any samples. All results have been qualified "UL".

Continuing calibrations were within acceptance limits with the exception of high percent recovery of nitrobenzene in two of the CLC injections. This was due to a coeluting interference. Nitrobenzene was not detected in any samples. Affected results have been qualified "UJ".

All surrogate recoveries were within limits.

Sufficient volume was not provided by the sampler to extract and analyze an aqueous matrix spike/ matrix spike duplicate. All soil matrix spike recoveries and relative percent differences were within the acceptance limits.

Recoveries from the lab fortified blank (LFB) and second source audit (LCM) were within limits with the exception of low recovery of RDX and tetryl in the aqueous LCM and low recovery of tetryl in the aqueous LFB. RDX and tetryl were not detected in any aqueous samples. Affected results have been qualified "UL".

Laboratory method and reagent blanks showed no contamination. A field blank was not provided by the sampler.



USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 31878

Client No: R31657

SDG No:

L

Date Shipped: 6/24/2003 Carrier Name: FedEx Airbill: 840878239309 Shipped to: ASQAB USEPA Region III 701 Mapes Road Fort Meade MD 20755 (410) 305-2667	Chain of Custody Record		Sampler Signature: <i>[Signature]</i>
	Relinquished By	(Date / Time)	Received By
	1 <i>[Signature]</i>	6/24/03 1600	CA HARRIS 6.25.03 10:00
	2		
	3		
4			
For Lab Use Only			Lab Contract No: _____
			Unit Price: _____
			Transfer To: _____
			Lab Contract No: _____
			Unit Price: _____

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY Sample Condition On Receipt
SED1	Sediment/ Dixon Wood <i>DU</i>	L/G	NIT_ARO (21), PER (21)	1543 (Ice Only), 1544 (Ice Only) (2)	SED1	S: 6/24/2003 11:10	030625-01 ✓
SED2	Sediment/ Dixon Wood <i>DU</i>	L/G	NIT_ARO (21), PER (21)	1549 (Ice Only), 1550 (Ice Only) (2)	SED2	S: 6/24/2003 10:15	-02 ✓
SED3	Sediment/ Dixon Wood <i>DU</i>	L/G	NIT_ARO (21), PER (21)	1555 (Ice Only), 1556 (Ice Only) (2)	SED3	S: 6/24/2003 13:15	-03 ✓
SED4	Sediment/ Dixon Wood <i>DU</i>	L/G	NIT_ARO (21), PER (21)	1561 (Ice Only), 1562 (Ice Only) (2)	SED4	S: 6/24/2003 9:40	-04 ✓
SED5	Sediment/ Phillip Anderson <i>PA</i>	L/G	NIT_ARO (21), PER (21)	1567 (Ice Only), 1568 (Ice Only) (2)	SED5	S: 6/24/2003 10:15	-05 ✓
SST10	Subsurface Soil (>12")/ Andy Zarins <i>A.Z.</i>	L/G	NIT_ARO (21), PER (21)	1585 (Ice Only), 1586 (Ice Only), 1587 (Ice Only), 1588 (Ice Only) (4)	SST10	S: 6/24/2003 12:26	-06 ✓
SST11	Subsurface Soil (>12")/ Andy Zarins <i>A.Z.</i>	L/G	NIT_ARO (21), PER (21)	1593 (Ice Only), 1594 (Ice Only) (2)	SST11	S: 6/24/2003 13:47	-07 ✓
SST15	Subsurface Soil (>12")/ Andy Zarins <i>A.Z.</i>	L/G	NIT_ARO (21), PER (21)	1617 (Ice Only), 1618 (Ice Only) (2)	SST15	S: 6/24/2003 11:40	-08 ✓
SST2	Subsurface Soil (>12")/ Andy Zarins <i>A.Z.</i>	L/G	NIT_ARO (21), PER (21)	1623 (Ice Only), 1624 (Ice Only) (2)	SST2	S: 6/24/2003 9:44	-09 ✓
SST3	Subsurface Soil (>12")/ Andy Zarins <i>A.Z.</i>	L/G	NIT_ARO (21), PER (21)	1629 (Ice Only), 1630 (Ice Only) (2)	SST3	S: 6/24/2003 10:13	-10 ✓

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s): <i>[Signature]</i>	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
	SST10 <i>SWT1</i>	<i>[Signature]</i>		
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? <input type="checkbox"/>	Shipment Iced? <input type="checkbox"/>
NIT_ARO = Nitroaromatics, PER = Perchlorates				

TR Number: 3-592370820-062403-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

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Date

6/24/03

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Name

C. HARTMAN

Phone

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Dept./Floor/Suite/Room

City BALTIMORE

State MD

ZIP 21230-1701

2 Your Internal Billing Reference

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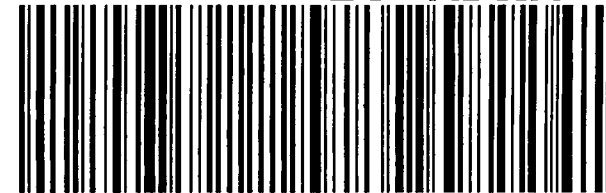
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and FedEx 2Day to
select locations

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(One box must be checked)

☒ No☐ Yes
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Shipper's Declaration
not required☐ Dry Ice
Dry Ice, 9 UN 1845☐ Cargo Aircraft Only

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USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 31878

Client No: R31657

SDG No:

L

Date Shipped: 6/24/2003 Carrier Name: FedEx Airbill: 840878239309 Shipped to: ASQAB USEPA Region III 701 Mapes Road Fort Meade MD 20755 (410) 305-2667	Chain of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____
	Relinquished By (Date / Time)	Received By (Date / Time)		
	1 6/24/03 1600	6.25.03 10:00		
	2			
	3			
4				

SAMPLE No.	MATRX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY Sample Condition On Receipt
SST4	Subsurface Soil (>12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1635 (Ice Only), 1636 (Ice Only) (2)	SST4	S: 6/24/2003 10:52	030625-11 ✓
SST5	Subsurface Soil (>12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1641 (Ice Only), 1642 (Ice Only) (2)	SST5	S: 6/24/2003 11:40	-12 ✓
SST9	Subsurface Soil (>12")/ Barbara Brown	L/G	NIT_ARO (21), PER (21)	1665 (Ice Only), 1666 (Ice Only) (2)	SST9	S: 6/24/2003 14:20	-13 ✓
ST10	Surface Soil (0"-12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1692 (Ice Only), 1693 (Ice Only) (2)	ST10	S: 6/24/2003 12:09	-14 ✓
ST11	Surface Soil (0"-12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1698 (Ice Only), 1699 (Ice Only) (2)	ST11	S: 6/24/2003 13:42	-15 ✓
ST15	Surface Soil (0"-12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1722 (Ice Only), 1723 (Ice Only) (2)	ST15	S: 6/24/2003 11:28	-16 ✓
ST2	Surface Soil (0"-12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1728 (Ice Only), 1729 (Ice Only) (2)	ST2	S: 6/24/2003 9:33	-17 ✓
ST3	Surface Soil (0"-12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1734 (Ice Only), 1735 (Ice Only) (2)	ST3	S: 6/24/2003 10:05	-18 ✓
ST4	Surface Soil (0"-12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1740 (Ice Only), 1741 (Ice Only) (2)	ST4	S: 6/24/2003 10:45	-19 ✓
ST5	Surface Soil (0"-12")/ Andy Zarins <i>AZ</i>	L/G	NIT_ARO (21), PER (21)	1746 (Ice Only), 1747 (Ice Only) (2)	ST5	S: 6/24/2003 11:28	-20 ✓

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: SST10 <i>SWT1</i>	Additional Sampler Signature(s): 	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:	
Analysis Key: NIT_ARO = Nitroaromatics, PER = Perchlorates	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? <input type="checkbox"/>	Shipment Iced? <input type="checkbox"/>	

TR Number: 3-592370820-062403-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
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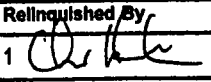
USEPA Contract Laboratory Program
Generic Chain of Custody

Reference Case 31878

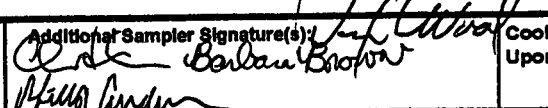

Client No: R31657

SDG No:

L

Date Shipped: 6/24/2003 Carrier Name: FedEx Airbill: 840878239309 Shipped to: ASQAB USEPA Region III 701 Mapes Road Fort Meade MD 20755 (410) 305-2667	Chain of Custody Record		Sampler Signature: 	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date / Time)	Received By		(Date / Time)
	1 	6/24/03 1600	COHARRIS		6-25-03 10:00
	2				
	3				
4					

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							Sample Condition On Receipt	
ST9	Surface Soil (0"-12")/ BB	L/G	NIT_ARO (21), PER (21)	1770 (Ice Only), 1771 (Ice Only) (2)	ST9	S: 6/24/2003 14:15	030625-21	✓
SWT1	Surface Water/ Dixon Wood DCU	L/G	NIT_ARO (21), PER (21)	1456 (Ice Only), 1457 (Ice Only), 1458 (Ice Only), 1459 (Ice Only) (4)	SWT1	S: 6/24/2003 11:10	-22	✓
SWT2	Surface Water/ Dixon Wood DCU	L/G	NIT_ARO (21), PER (21)	1465 (Ice Only), 1466 (Ice Only) (2)	SWT2	S: 6/24/2003 10:15	-23	✓
SWT3	Surface Water/ Dixon Wood DCU	L/G	NIT_ARO (21), PER (21)	1472 (Ice Only), 1473 (Ice Only) (2)	SWT3	S: 6/24/2003 13:10	-24	✓
SWT4	Surface Water/ Dixon Wood DCU	L/G	NIT_ARO (21), PER (21)	1479 (Ice Only), 1480 (Ice Only) (2)	SWT4	S: 6/24/2003 9:40	-25	✓
SWT5	Surface Water/ Phillip Anderson DCU	L/G	NIT_ARO (21), PER (21)	1486 (Ice Only), 1487 (Ice Only) (2)	SWT5	S: 6/24/2003 10:15	-26	✓
SWT6	Surface Water/ Chris Hartman FH	L/G	NIT_ARO (21), PER (21)	1493 (Ice Only), 1494 (Ice Only) (2)	SWT6	S: 6/24/2003 9:30	-27	✓

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: SST10 SWT1	Additional Sampler Signature(s):  	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key: NIT_ARO = Nitroaromatics, PER = Perchlorates	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? <input type="checkbox"/>	Shipment Iced? <input type="checkbox"/>

TR Number: 3-592370820-062403-0002

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**USEPA Contract Laboratory Program
Generic Chain of Custody**

Reference Case 31878

Client No: R31657

SDG No:

L

Date Shipped: 6/25/2003 Fed Ex Carrier Name: Fed Ex Airbill: 840070200480 84081823 9489 Shipped to: ASQAB USEPA Region III 701 Mapes Road Fort Meade MD 20755 (410) 305-2667	Chain of Custody Record		Sampler Signature: <i>[Signature]</i>	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date / Time)	Received By		(Date / Time)
	1 <i>[Signature]</i>	6/25/03 1600	<i>[Signature]</i>		6/25/03 1600
	2		<i>[Signature]</i>		6/26/03 1000
	3				
4					

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		FOR LAB USE ONLY Sample Condition On Receipt
SST1	Subsurface Soil (>12")/ Andy Zarins <i>0.3</i>	L/G	NIT_ARO (21), PER (21)	1573 (Ice Only), 1574 (Ice Only) (2)	SST1	S: 6/25/2003	13:10	<i>03062604</i>
SST12	Subsurface Soil (>12")/ Andy Zarins <i>0.3</i>	L/G	NIT_ARO (21), PER (21)	1599 (Ice Only), 1600 (Ice Only) (2)	SST12	S: 6/25/2003	9:40	<i>05</i>
SST13	Subsurface Soil (>12")/ Andy Zarins <i>0.3</i>	L/G	NIT_ARO (21), PER (21)	1605 (Ice Only), 1606 (Ice Only) (2)	SST13	S: 6/25/2003	10:10	<i>06</i>
SST14	Subsurface Soil (>12")/ Andy Zarins <i>0.3</i>	L/G	NIT_ARO (21), PER (21)	1611 (Ice Only), 1612 (Ice Only) (2)	SST14	S: 6/25/2003	11:10	<i>07</i>
SST6	Subsurface Soil (>12")/ Andy Zarins <i>0.3</i>	L/G	NIT_ARO (21), PER (21)	1647 (Ice Only), 1648 (Ice Only) (2)	SST6	S: 6/25/2003	11:32	<i>08</i>
SST7	Subsurface Soil (>12")/ Andy Zarins <i>0.3</i>	L/G	NIT_ARO (21), PER (21)	1653 (Ice Only), 1654 (Ice Only) (2)	SST7	S: 6/25/2003	11:57	<i>09</i>
SST8	Subsurface Soil (>12")/ Andy Zarins <i>0.3</i>	L/G	NIT_ARO (21), PER (21)	1659 (Ice Only), 1660 (Ice Only) (2)	SST8	S: 6/25/2003	10:40	<i>10</i>
ST1	Surface Soil (0"-12")/ Scott Morgan <i>bm</i>	L/G	NIT_ARO (21), PER (21)	1684 (Ice Only), 1685 (Ice Only), 1686 (Ice Only), 1687 (Ice Only) (4)	ST1	S: 6/25/2003	13:05	<i>11</i>
ST12	Surface Soil (0"-12")/ Scott Morgan <i>bm</i>	L/G	NIT_ARO (21), PER (21)	1704 (Ice Only), 1705 (Ice Only) (2)	ST12	S: 6/25/2003	9:35	<i>12</i>
ST13	Surface Soil (0"-12")/ Scott Morgan <i>bm</i>	L/G	NIT_ARO (21), PER (21)	1710 (Ice Only), 1711 (Ice Only) (2)	ST13	S: 6/25/2003	10:05	<i>13</i>

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: ST1	Analyst/Sampler Signature(s): <i>[Signature]</i>	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key: NIT_ARO = Nitroaromatics, PER = Perchlorates	Concentration: L = Low, M = Low/Medium, H = High	Type/Designation: Composite = C, Grab = G	Custody Seal Intact? <input type="checkbox"/>	Shipment Iced? <input type="checkbox"/>

TR Number: 3-592370820-062503-0001

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1 From This portion can be removed for Recipient's records.

Date 6/25/03 FedEx Tracking Number 840878239489

Sender's Name C. H. HOLT (Trin) Phone 410 537-3493

Company MARYLAND DEPT OF ENVIRONMENT

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City BALTIMORE State MD ZIP 21230-1701

2 Your Internal Billing Reference 65596

3 To Recipient's Name C. HARRIS Phone 410 305-2625

Company USEPA - ASQAB

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4a Express Package Service *Packages up to 150 lbs.*
 Delivery commitment may be later in some areas.

☒ FedEx Priority Overnight Next business morning
☐ FedEx Standard Overnight Next business afternoon
☐ FedEx First Overnight Earliest next business morning delivery to select locations

☐ FedEx 2Day Second business day
☐ FedEx Express Saver Third business day
 FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service *Packages over 150 lbs.*
 Delivery commitment may be later in some areas.

☐ FedEx 1Day Freight* Next business day
☐ FedEx 2Day Freight Second business day
☐ FedEx 3Day Freight Third business day

* Call for Confirmation.

5 Packaging ** Declared value limit \$500*

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak ☒ Other

6 Special Handling *Include: FedEx address*

☐ SATURDAY Delivery Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
☐ HOLD Weekday at FedEx Location Not available for FedEx First Overnight
☐ HOLD Saturday at FedEx Location Available only for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods?
 One box must be checked.
☒ No ☐ Yes As per attached Shipper's Declaration ☐ Yes Shipper's Declaration not required ☐ Dry Ice Dry Ice, 3, UN 1845 x kg
 Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging ☐ Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 1 Total Weight 65 Total Charges

8 Release Signature *Sign to authorize delivery without obtaining signature*

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.
 Questions? Visit our Web site at fedex.com
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447

NO POUGH NEEDED

See back for pool and stick application instructions.



**USEPA Contract Laboratory Program
Generic Chain of Custody**

Reference Case 31878

Client No: R31657

SDG No:

L

Date Shipped: 6/25/2003 <i>Fed Ex</i> Carrier Name: FedEx <i>Hand Delivered</i> Airbill: 840878239489 Shipped to: ASQAB USEPA Region III 701 Mapes Road Fort Meade MD 20755 (410) 305-2667	Chain of Custody Record		Sampler Signature: <i>[Signature]</i>	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date / Time)	Received By		(Date / Time)
	1 <i>Q. [Signature]</i>	6/25/03 1600	<i>Peggy Smith</i>		6/25/03 1600
	2		<i>Thomas [Signature]</i>		6/26/03 1000
	3				
4					

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT		FOR LAB USE ONLY Sample Condition On Receipt
						DATE/TIME		
ST14	Surface Soil (0"-12")/ Scott Morgan <i>SM</i>	L/G	NIT_ARO (21), PER (21)	1716 (Ice Only), 1717 (Ice Only) (2)	ST14	S: 6/25/2003	11:05	03 06 26 14 ✓
ST6	Surface Soil (0"-12")/ Scott Morgan <i>SM</i>	L/G	NIT_ARO (21), PER (21)	1752 (Ice Only), 1753 (Ice Only) (2)	ST6	S: 6/25/2003	11:27	15 ✓
ST7	Surface Soil (0"-12")/ Scott Morgan <i>SM</i>	L/G	NIT_ARO (21), PER (21)	1758 (Ice Only), 1759 (Ice Only) (2)	ST7	S: 6/25/2003	11:52	16 ✓
ST8	Surface Soil (0"-12")/ Scott Morgan <i>SM</i>	L/G	NIT_ARO (21), PER (21)	1764 (Ice Only), 1765 (Ice Only) (2)	ST8	S: 6/25/2003	10:35	17 ✓
SWT7	Surface Water/ Chris Hartman <i>CH</i>	L/G	NIT_ARO (21), PER (21)	1500 (Ice Only), 1501 (Ice Only) (2)	SWT7	S: 6/25/2003	9:00	18 ✓

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: ST1	Additional Sampler Signature(s): <i>[Signature]</i>	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:	
Analysis Key: NIT_ARO = Nitroaromatics, PER = Perchlorates	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? ___	Shipment Iced? ___

TR Number: 3-592370820-062503-0001

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